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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/749,239	12/30/2003	Sung-Hak Kim	11038-163-999	9690

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EXAMINER

DRODGE, JOSEPH W

ART UNIT	PAPER NUMBER
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1723

DATE MAILED: 03/31/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/749,239	Applicant(s) KIM, SUNG-HAK	
	Examiner Joseph W. Drodge	Art Unit 1723	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☒ Claim(s) 4 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|-------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>1203</u> . | 6) <input type="checkbox"/> Other: ____. |

Art Unit: 1723

Claims 1-5 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1, in the last clause "to open and close fuel through holes" is confusing and unclear.

In each of claim 1, line 12 and claim 5, line 6, "the fuel filter" lacks antecedent basis and it is unclear whether the claims positively recite fuel filter components.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 5 is rejected under 35 U.S.C. 102(b) as being anticipated by either of Chenoweth patent 3,452,776 or Douglas patent 3,045,695.

Chenoweth discloses a valve comprising a sealing and valve body arrangement comprising connecting parts 1,2,4 and 5, interior chambers 39,18 and 22, the chambers located between piston disk 44, piston 28 and piston 31 and all 3 pistons configured to move in opposite directions depending upon forces exerted by spring 43. Little patentable weight has been given terminology "fuel filter", since the claim preamble indicates connection to a fuel filter only as intended use, and no filtering element is positively recited.

Douglas similarly discloses connection parts 6 and 27, pistons 9, 28 and 29, interior chamber 34, and spring 17 that effects reversible and reciprocal motion of the pistons.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1,3 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Quinting patent 3,289,841 in view of Gaudet et al patent 3,926,806, Hugh et al patent 4,702,790 and Spencer patent 2,756,771. Quinting discloses a sealing and valve apparatus connectable to a hydraulic fluid filtering filter comprising seals 30 and 32, fuel filter-side connecting part 24,36 and/or 40, filtered fluid outlet line connecting part 34, "oil" chamber 81 connected between 1st flow guiding means 104 and 2nd flow guiding means 106 coupled with springs 94, the flow guiding means being reversibly moveable and reciprocal in response to fluid pressures (column 2, lines 36-51) and barrier valves 90 and 92 at opposite sides of the flow guiding means configured to open and close

Art Unit: 1723

flow-through holes between channel walls 86 and 88 and the radially extending members of the flow guiding means shown in figure 2.

The claims firstly differ in requiring the flow guiding means to constitute pistons. However, Quinting does disclose end portions of the flow guiding means constituting reciprocating disks (figure 2). Gaudet et al teach a reciprocating flow control valve for a hydraulic fluid filtering filter that comprises a valve member coupled by a spring to a reciprocating piston (21/31, column 2, line 66-column 3, line 35). It would have been obvious to one of ordinary skill in the art to have designed the flow guiding means of Quinting to constitute springs, for instance by including a disc member that substantially fills a flow channel, as taught by Gaudet et al, in order to be more instantaneously and quickly responsive to changing flow pressures upstream and downstream of the filter.

The claims secondly differ in requiring the filter to be a "fuel" filter. However it would have been obvious that the Quinting filter is capable of filtering "fuel, since Hogg et al at column 1, lines 6-7 and 33-37 teach that filters of the general type of Quinting (having housing depending from a top manifold having inlet and outlet openings) are equally capable of filtering hydraulic fluids or oil and fuel.

The claims lastly differ in requiring the oil chamber between the flow guiding means or pistons to have radially formed flow holes that are opened and closed by movement of the pistons. However, Spencer teaches a valve structure for regulating flow in hydraulic installations where flow is reversible (column 1, lines 15-19), and comprising an oil chamber 10 having flow holes 9 that are radially formed with respect to a center axis of the chamber, which are opened and closed by movements of the

Art Unit: 1723

piston 7. It would have been also obvious to have modified the chamber between the flow guiding means or pistons of Quinting, to be a closed chamber with such radially formed openings taught by Spencer, to avoid sudden, unstable movement of the flow guiding means or pistons (column 2, lines 32-40 of Spencer).

Regarding claims 3 and 4, see O-rings seals 30,32 and 48 of Quinting.

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Quinting patent 3,289,841 in view of Gaudet et al patent 3,926,806 and Hugh et al patent 4,702,790. Quinting discloses a sealing and valve apparatus connectable to a hydraulic fluid filtering filter comprising seals 30 and 32, fuel filter-side connecting part 24,36 and/or 40, filtered fluid outlet line connecting part 34, "oil" chamber 81 connected between 1st flow guiding means 104 and 2nd flow guiding means 106 coupled with springs 94, the flow guiding means being reversibly moveable and reciprocal in response to fluid pressures (column 2, lines 36-51) and barrier valves 90 and 92 at opposite sides of the flow guiding means configured to open and close flow-through holes between channel walls 86 and 88 and the radially extending members of the flow guiding means shown in figure 2.

Claim 5 firstly differs in requiring the flow guiding means to constitute pistons. However, Quinting does disclose end portions of the flow guiding means constituting reciprocating disks (figure 2). Gaudet et al teach a reciprocating flow control valve for a hydraulic fluid filtering filter that comprises a valve member coupled by a spring to a reciprocating piston (21/31, column 2, line 66-column 3, line 35). It would have been obvious to one of ordinary skill in the art to have designed the flow guiding means of

Art Unit: 1723

Quinting to constitute springs, for instance by including a disc member that substantially fills a flow channel, as taught by Gaudet et al, in order to be more instantaneously and quickly responsive to changing flow pressures upstream and downstream of the filter.

Claim 5 secondly may differ in requiring the filter to be a "fuel" filter. However it would have been obvious that the Quinting filter is capable of filtering "fuel", since Hogg et al at column 1, lines 6-7 and 33-37 teach that filters of the general type of Quinting (having housing depending from a top manifold having inlet and outlet openings) are equally capable of filtering hydraulic fluids or oil and fuel.

ALLOWABLE SUBJECT MATTER

Claim 2 would be allowable if rewritten to incorporate all of the limitations of claim 1, and written in independent form and amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action. Claim 2 would distinguish in view of recitation of one side of the oil chamber accommodating the second piston and being formed in the shape of a double cylinder, and having a distal end bent inwardly.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Church et al patent 4,997,555 is representative of fuel filters having flow regulating and check valves in the inlet lines to the filter chamber, with the disclosed check valve being of the duck-bill type (column 6, lines 41-68).

Art Unit: 1723

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph Drodge at telephone number 571-272-1140. The examiner can normally be reached on Monday-Friday from 8:30 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wanda Walker, can be reached at 571-272-1151. The fax phone number for the examining group where this application is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either private PAIR or Public PAIR, and through Private PAIR only for unpublished applications. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have any questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JWD

March 29, 2006


JOSEPH DRODGE
PRIMARY EXAMINER